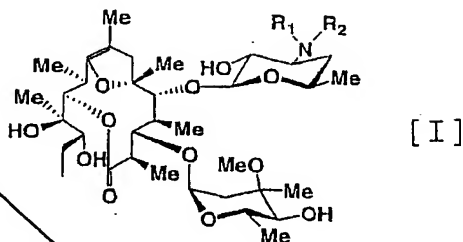


Claims

1. A novel pseudoerythromycin derivative represented by the general formula [I],



wherein R_1 and R_2 are same or different and each represents H, alkyl, alkynyl, acyl, or sulfonyl, in which these groups may optionally have substituents, and Me indicates methyl.

2. A compound according to claim 1 which is de(3'-N-methyl)-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

3. A compound according to claim 1 which is de(3'-N-methyl)-3'-N-sulfonyl-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

4. A compound according to claim 1 which is de(3'-N-methyl)-[3'-N-(3-hydroxy-1-propyl)]-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

5. A compound according to claim 1 which is de(3'-N-methyl)-3'-N-(2-acetoxyethyl)-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

6. A compound according to claim 1 which is de(3'-N-methyl)-3'-N

-cyanomethyl-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

7. A compound according to claim 1 which is de(3'-N-methyl)-3'-N-(2-fluoroethyl)-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

8. A compound according to claim 1 which is bis-de(3'-N-methyl)-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

9. A compound according to claim 1 which is bis-de(3'-N-methyl)-3'-N-ethyl-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

10. A compound according to claim 1 which is bis-de(3'-N-methyl)-3', 3'-N, N-diethyl-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

11. A compound according to claim 1 which is bis-de(3'-N-methyl)-3'-N-allyl-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

12. A compound according to claim 1 which is bis-de(3'-N-methyl)-3', 3'-N, N-diallyl-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

13. A compound according to claim 1 which is bis-de(3'-N-methyl)-3'-N-propargyl-8, 9-anhydro-pseudoerythromycin A 6, 9-

hemiketal or salt thereof.

14. A compound according to claim 1 which is bis-de(3'-N-methyl)-3', 3'-N, N-dipropargyl-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

15. A compound according to claim 1 which is bis-de(3'-N-methyl)-3'-N-propyl-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

16 A compound according to claim 1 which is bis-de(3'-N-methyl)-3', 3'-N, N-dipropyl-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

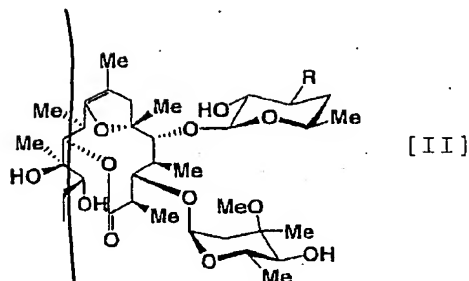
17 A compound according to claim 1 which is bis-de(3'-N-methyl)-3'-N-hexyl-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

18. A compound according to claim 1 which is bis-de(3'-N-methyl)-3', 3'-N, N-dihexyl-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

19. A compound according to claim 1 which is bis-de(3'-N-methyl)-3'-N-benzyl-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

20. A compound according to claim 1 which is bis-de(3'-N-methyl)-3', 3'-N, N-dibenzyl-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

21. A compound according to claim 1 which is bis-de(3'-N-methyl)-3'-N-(2-propyl)-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.
22. A compound according to claim 1 which is bis-de(3'-N-methyl)-3', 3'-N, N-di-(10-bromo-1-decanyl)-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.
23. A compound according to claim 1 which is bis-de(3'-N-methyl)-3'-N-acetyl-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.
24. The derivative according to claim 1 wherein the compound represented by the general formula [I] has promoting action for differentiation-induction from monocyte to macrophage.
25. The derivative according to claim 1 wherein the compound represented by the general formula [I] has a suppressive effect against bleomycin-induced pulmonary fibrosis.
26. The derivative according to claim 1 wherein the compound represented by the general formula [I] has suppressive effect against pneumonia caused by influenza viral infection.
27. A novel pseudoerythromycin derivative represented by the general formula [II].



wherein R is heterocyclic containing N which may optionally have substituents, and Me indicates methyl.

28. A compound according to claim 27 which is de(3'-dimethyl amino)-3'-piperidino-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

29. A compound according to claim 27 which is de(3'-dimethyl amino)-3'-pyrrolidino-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

30. A compound according to claim 27 which is de(3'-dimethyl amino)-3'-morpholino-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

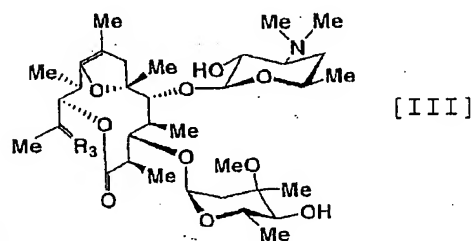
31. A compound according to claim 27 which is de(3'-dimethyl amino)-3'-[hexahydro-1(1H)-azepinyl]-8, 9-anhydro-pseudo erythromycin A 6, 9-hemiketal or salt thereof.

32. The derivative according to claim 27 wherein the compound represented by the general formula [II] has promoting action for differentiation-induction from monocyte to macrophage.

33. The derivative according to claim 27 wherein the compound represented by the general formula [II] has a suppressive effect against bleomycin-induced pulmonary fibrosis.

34. The derivative according to claim 27 wherein the compound represented by the general formula [II] has suppressive effect against pneumonia caused by influenza viral infection.

35. A novel pseudoerythromycin derivative represented by the general formula [III],



wherein R_3 is O or NOH, and Me indicates methyl.

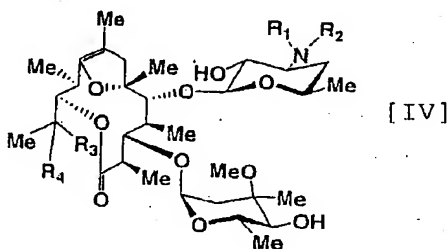
36. A compound according to claim 35 which is de(12-hydroxy)-de[12-(1-hydroxypropyl)]-12-hydroxyoxime-8,9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

37. The derivative according to claim 35 wherein the compound represented by the general formula [III] has promoting action for differentiation-induction from monocyte to macrophage.

38. The derivative according to claim 35 wherein the compound represented by the general formula [III] has a suppressive effect against bleomycin-induced pulmonary fibrosis.

39. The derivative according to claim 35 wherein the compound represented by the general formula [III] has suppressive effect against pneumonia caused by influenza viral infection.

40. A novel pseudoerythromycin derivative represented by the general formula [IV],



wherein R_1 and R_2 are same or different and each represents H or methyl, R_3 and R_4 represent H, hydroxyl or amino, and Me indicates methyl.

41. A compound according to claim 40 which is de[12-(1-hydroxypropyl)]-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

42. A compound according to claim 40 which is de(12-hydroxy)-de[12-(1-hydroxypropyl)]-12-amino-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

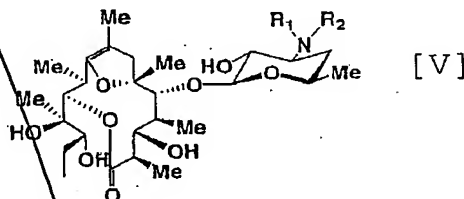
43. A compound according to claim 40 which is de(3'-N-methyl)-de [12-(1-hydroxypropyl)]-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

44. The derivative according to claim 40 wherein the compound represented by the general formula [IV] has promoting action for differentiation-induction from monocyte to macrophage.

45. The derivative according to claim 40 wherein the compound represented by the general formula [IV] has a suppressive effect against bleomycin-induced pulmonary fibrosis.

46. The derivative according to claim 40 wherein the compound represented by the general formula [IV] has suppressive effect against pneumonia caused by influenza viral infection.

47. A novel pseudoerythromycin derivative represented by the general formula [V],



wherein R_1 and R_2 are same or different and each represents H or methyl, and Me indicates methyl.

48. A compound according to claim 47 which is de(3-O-cladinosyl)-8, 9-anhydro-pseudoerythromycin A 6, 9-hemiketal or salt thereof.

49. A compound according to claim 47 which is de(3-O-cladinosyl)-de(3'-N-methyl)-8, 9-anhydro-pseudoerythromycin A

6, 9-hemiketal or salt thereof.

50. The derivative according to claim 47 wherein the compound represented by the general formula [V] has promoting action for differentiation-induction from monocyte to macrophage.

51. The derivative according to claim 47 wherein the compound represented by the general formula [V] has a suppressive effect against bleomycin-induced pulmonary fibrosis.

52. The derivative according to claim 47 wherein the compound represented by the general formula [V] has suppressive effect against pneumonia caused by influenza viral infection.

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